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TRUTH AND LIBERTY.

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UTAH'S NEAREST SHIPPING PORT—THE SAN PEDRO HARBOR.

THAT the San Pedro harbor is destined to become one of the great shipping points of the Pacific coast no one can doubt. The bay of San Pedro has long been recognized as affording the most advantages for the construction of a deep water harbor of any port along the 600 miles of coast line from San Pedro to San Francisco.

The history of the fight of the San Pedro harbor projectors against the late Collis P. Huntington and the Southern Pacific interests generally has in the past occupied columns of space in the leading papers of the country. The story of the appropriations on the part of Congress for the work of the development of this safe refuge for vessels has passed into history and now the San Pedro harbor is an accomplished fact although at the same time there is still a great amount of work to be done ere the big ocean-going steamships can lie alongside of the wharfs and discharge their cargoes from the Orient to the strings of cars of the San Pedro, Los Angeles & Salt Lake that will be waiting to transport the merchandise on their way across the continent.

Big strides are being made already towards the perfecting of the harbor as the photographs taken for the "News" would indicate. Already for some time past there has been a big stream of lumber flowing through the port of San Pedro from the big schooners that come down from Puget Sound and warp to the quay. The steadily increasing size of the giant rock breakwater built to check the big rollers that come in in stormy weather from the Pacific is also an indication of what a future there is before the new deep-water harbor.

There are strenuous times at the docks daily as the big shipments of lumber are being handled and yet in the face of the fact that it is said that every working day there is lumber enough passing over the San Pedro wharves to build of one-inch stuff an eight-foot sidewalk from that port to the city of Los Angeles.

Within the past few years there has been a marked change in the character of the vessels bringing lumber cargoes into the southern California ports. The little two-masted and three masted schooners which used to sail up and down the coast are getting out of date. The smaller ones, with the exception of those of light draft which get their cargoes from some northern shallow river, have all disappeared. With the twentieth century have come the great sailing vessels with carrying capacities running up to 1,500,000 feet of lumber, but having little greater draft than those of much smaller tonnage.

At present the greatest draft vessels that come over the harbor bar loaded with lumber into the inner harbor is nineteen feet. Even then vessels having that depth of keel have at times to wait for a favorable tide ere they can come in and berth alongside the waiting cars on the wharf.

Visitors from Los Angeles and those who have visited San Pedro lately report that during the past month business has been so brisk in the harbor that in a number of cases it has been necessary for the skipper of the ships coming in to unload to await their turn for their discharging berths. The docking space already at this early date is said to be inadequate to accomodate the steadily increasing traffic in lumber alone and frequently is the bowspit of one vessel dovetailing with the boom of the mainsail of another as they lie end to end along the quay while the derricks creak and the cargoes are being transferred to the cars for transportation to the big and growing smaller cities of California.

This big volume of lumber that is being moved daily makes it almost impossible to keep the wharves and switchyards out of confusion and on the San Pedro side of the inner harbor alone there are two switch engines constantly at work making up trains and hauling the loaded cars out to the main yards and replacing them with empty ones.

There is much work to be done ere the San Pedro road is an accomplished fact and trains are running from the coast to Salt Lake City. With the opening of the road, however, it is estimated that the harbor will be in such shape that big steamers will be able to berth and load goods for the Orient or unload the products of the Far East for distribution, among the markets of America.

Heidmaier & Neu, the contractors who offered the lowest bid on the harbor work, were a Chicago firm then engaged on the drainage canal and on extensive harbor and canal work in other sections of the Union. Long experience with harbor pitfalls had made the people of Los Angeles excessively wary, and they paused to look into the reputation and standing of the firm before rejoicing overmuch at the lowness of the bid. The investigation showed that the Chicago men were entirely reliable; that they were bona fide, practical contractors, and not a dummy construction company. Even Mr. Alger, after taking six long months to investigate and think it over, could find no cause for complaint. The contract was therefore finally let in the summer of 1898.

The specifications which accompanied the contract called for the building of a breakwater about 8,500 feet long which "may be increased, if found practicable, without exceeding an aggregate cost of $2,900,000." The depth at mean low water along the site of the work is said to vary from 24 to 52 feet. This will call for a total of 2,290,000 long tons of stone. The amount of stone would fill 92,000 cars or 3,680 trains.

The method of work is as follows: The foundation layer consists of small stones, weighing from 5 pounds up to 100 pounds, and these are spread over the bottom of the ocean two feet thick and as wide as may be necessary to hold the general structure, whose bottom width varies with depth of the water. On this foundation lies the substructure, which consists of two parts, that below the "plane of rest," which is a plane 12 feet below mean low water, and that above it. The whole substructure is to be made of stone that is hard and durable and not liable to disintegrate in sea water, and must weigh when dry at least 130 pounds to the cubic foot. No stone is to weigh less than 100 pounds, and one-third of each load must be made up of stones of over 1,000 pounds each and another third of stones of over 4,000 pounds each. This stone, which forms the great body of the work, is to be dumped in from the bottom dumping barges on the foundation of rock already laid up to the plane of rest, 55 feet out from the center line of the breakwater on the sea side and 35 feet out on the harbor side. In short, at a point 12 feet below low water, the wall will be 90 feet wide. The upper section of the substructure is to be put in place when the section below the plane of rest shall have had six months for settlement. It measures at the top, which is near low water, 19 feet from each side of the center line. This gives it, of course, a much greater slope on the sea side than on the harbor side.

The superstructure is built of huge stones weighing from 6,000 to 16,000 pounds each, arranged like steps, with the heaviest ones on the sea side.

Thus the breakwater, when finished, will show at low tide a flight of seven steps, with two feet risers on the harbor side, or of four steps of about four feet each on the sea side. At high tide only half of the steps will be visible. Each end of the breakwater will be formed of a single block of concrete 40 feet square and 20 feet high.

There is a great amount of work to be done yet ere the giant sea wall, creeping far out under the water is finished. Thus far the construction operations have been devoted entirely to the building of the substructure which has a level top surface 38 feet in width on the plane of mean low tide. Twelve feet lower it widens out to 90 feet and below

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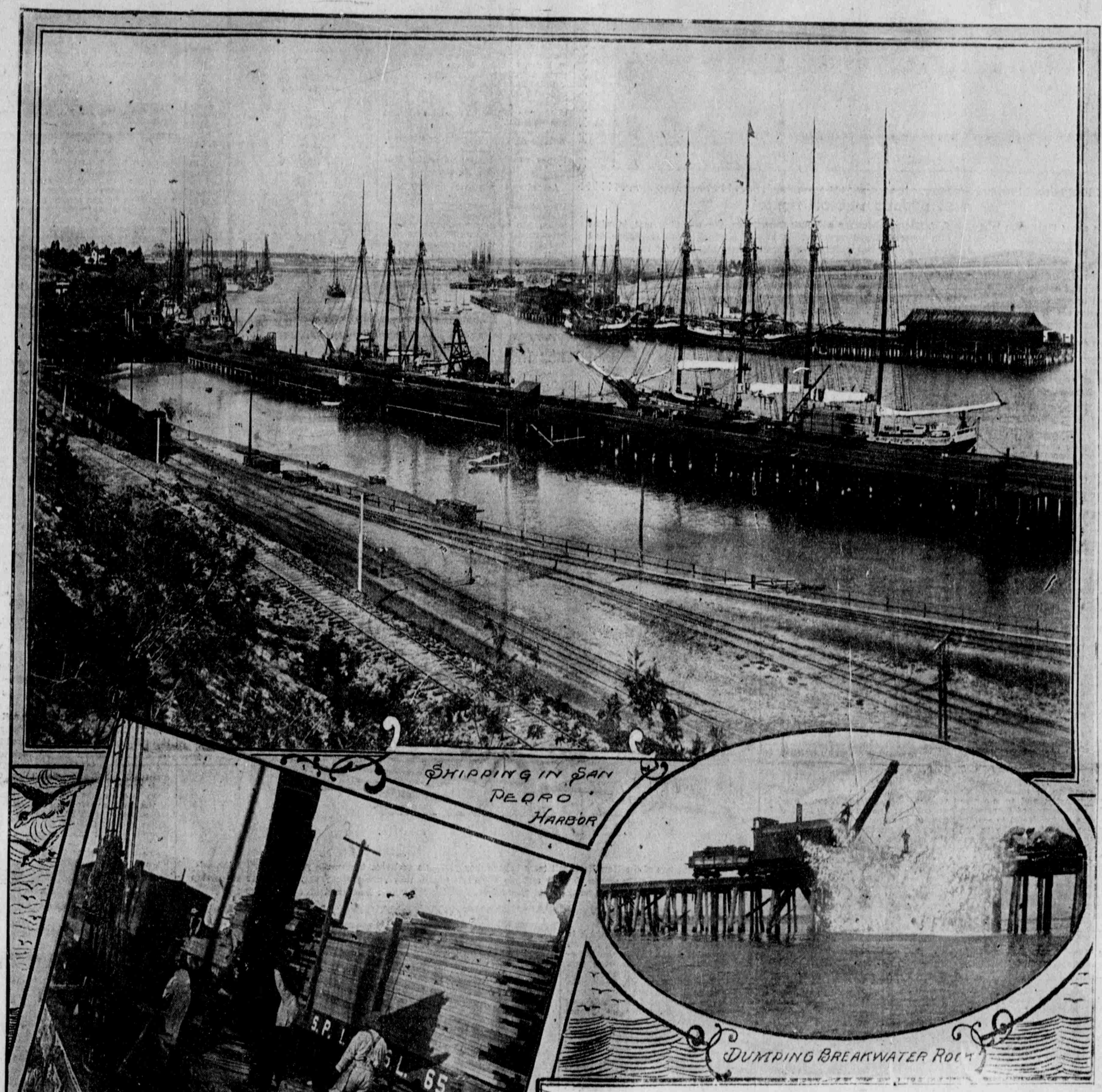
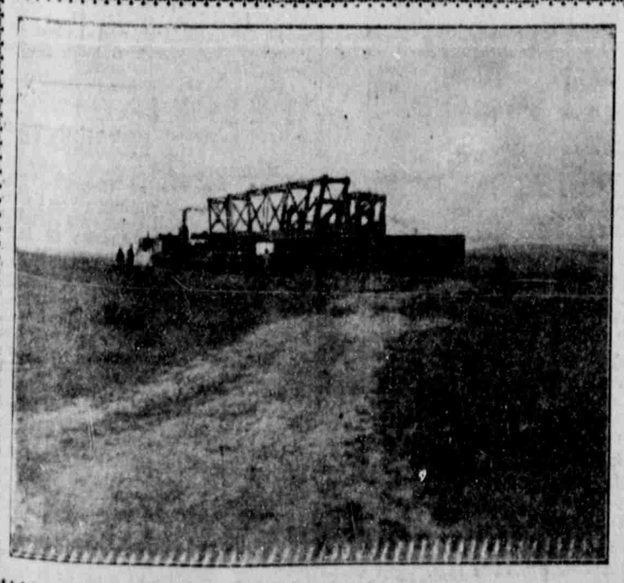
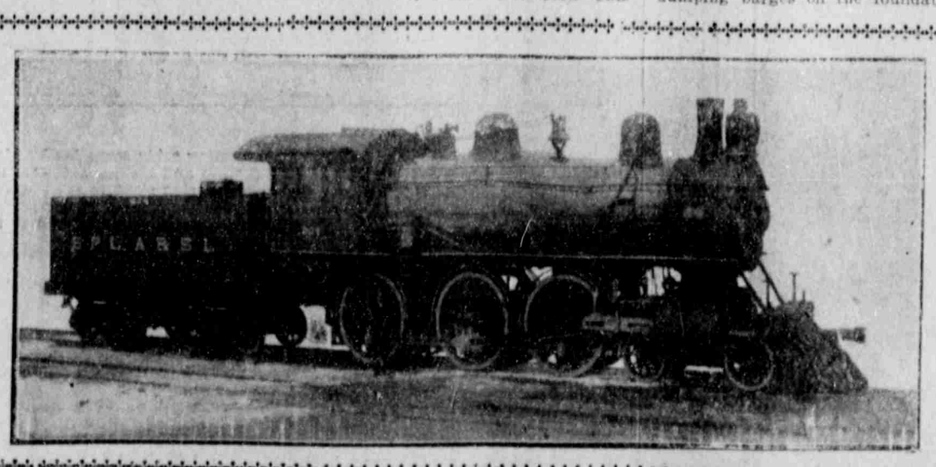




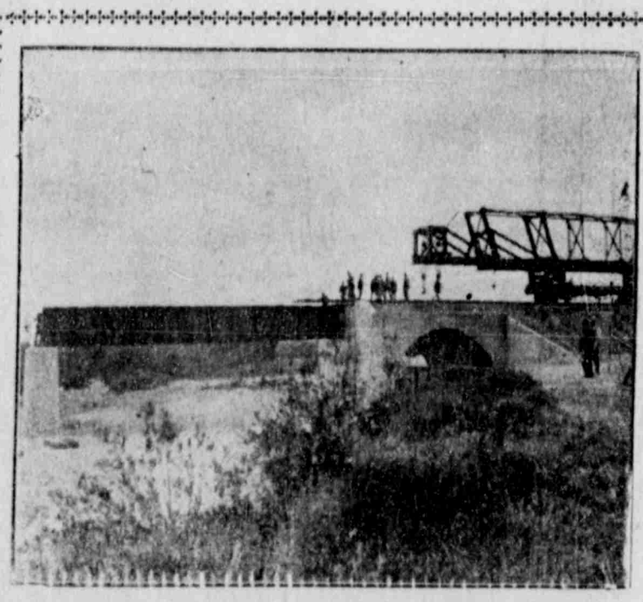
TRANSPORTING STEEL GIRDERS TO BRIDGE.

The above half-tone reproduction of a photograph taken expressly for the "News" on the first of this month, depicts a 24,000-pound girder hanging to a derrick and being transported to be placed on the piers of the bridge over the Rio Hondo, half a mile distant. The San Pedro has started to put in steel bridges and concrete culverts entirely in California, and this will be the order throughout the entire system. The Clark road will be the first line in the west, if not in the country, that at the outset did not have a stick of timber in its bridges or culverts. When finished the promoters promise that it will be second to none in the country.



NEW SAN PEDRO, LOS ANGELES AND SALT LAKE LOCOMOTIVE.

The above is one of the new monster locomotives built for the Los Angeles & Salt Lake road by the American Locomotive company at their Schenectady, New York, works. It is a 10-wheel passenger, simple acting locomotive, standard gauge, oil burning, with cylinders 20x28 inches; drivers, 67 inches in diameter; driving wheel base, 14 feet 8 inches; rigid wheel base, same; total wheel base, 26 feet; weight on drivers, 128,000 pounds; weight on truck, 30,000; total weight of engine, 158,000 pounds. Attention is called to the hight of the boiler above the rails, as shown by the man standing beside the immense machine. It will be noticed that the bottom of the boiler is higher than the man's head. Several of these new locomotives have been borrowed for the present by the Santa Fe, until the new road has laid enough track to make use of the new engines. Assistant Engineer McCartney of the Los Angeles road characterizes these engines as of the finest workmanship and the best equipped of any ever built either in this country or in Europe. They are the pride of American locomotive builders.



BRIDGING THE RIO HONDO.

The accompanying photograph taken expressly for the "News," gives some idea of the character of the work being done at the California end of the San Pedro, Los Angeles & Salt Lake road. The above picture was taken on April 7 just after the first girder, one of the eight to be used in bridging the Rio Hondo, had been placed in position and the huge derrick was on its way back to the loading yard. It can be seen from the picture reproduced that the work on the solid concrete arch and the masonry pier is of a quality calculated to withstand the ravages of time and that Senator Clark's promise that his line would be the best from every standpoint bids fair to hold good.